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The Role of Self-Esteem and Self-Efficacy in Detecting Responses to Feedback

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THE ROLE OF SELF-ESTEEM AND SELF-EFFICACY IN DETECTING RESPONSES TO FEEDBACK

CONTENTS

Abstract	1
Introduction	3
Background	5
Self-Esteem and Self-Efficacy	8
Self-Esteem	8
Self-Efficacy	10
Self-Esteem and Reactions to Feedback	13
Consistency Theory	15
Enhancement Theory	16
Behavioral Plasticity Theory	17
Impact of Self-Esteem on the Development of Self-Efficacy	19
Self-Efficacy and Feedback Reactions	22
Feedback Seeking	24
Self-Esteem and Feedback Seeking	28
Summary	34
External Propensity	36
Internal Propensity	37
Internal Ability	38
References	41

Abstract

Our research on the relationships between individual differences, feedback seeking, and reactions to feedback sought to identify and clarify the existing state of knowledge concerning these relationships. We identified five individual difference variables that have historically been included in empirical feedback studies. These are: self-esteem, self-efficacy, locus of control, achievement need, and tolerance for ambiguity. Within the identified research, feedback-related responses were classified into five categories: affective reactions to feedback (e.g., satisfaction with the feedback), cognitive reactions to feedback (e.g., perceived accuracy), feedback monitoring (i.e., using indirect methods such as observing others to gain some performance information), feedback seeking (i.e., asking others for feedback), and other behaviors (often including performance following the receipt of feedback). The results of this investigation are summarized in Appendices A through E. In each appendix, the relationship between an individual difference and the responses given above are outlined. More specifically, the results for self-esteem are contained in Appendix A, for self-efficacy in Appendix B, for locus of control in Appendix C, for tolerance for ambiguity in Appendix D, and need for achievement in Appendix E.

The literature search and review revealed that much of the available empirical literature has focused on either self-esteem or self-efficacy. Due to the widespread interest in these two individual differences, and the fact that they are qualitatively different (as explained below), we decided to conduct a more extensive evaluation and exploration of them within the context of performance feedback. This evaluation resulted in the present technical report. It provides a close examination of the relationships between self-esteem, self-efficacy, feedback seeking, and reactions to feedback. Furthermore, specific testable propositions are developed in order to identify directions for future research.

Our review indicated that despite the large number of studies addressing individual difference - feedback related behavior relationships, the precise role of these variables is still unclear. The more targeted review of the self-esteem and self-efficacy literature is also instructive because it highlights the role of two very different types of variables that might affect reactions to feedback and feedback seeking. Self-esteem is a personality trait variable that develops early in life. It refers to a general belief in one's own self-worth. A person's self-esteem level tends to remain fairly consistent over time. Therefore, while self-esteem may affect one's reactions to feedback and one's desire for feedback, self-esteem itself tends not to be affected by any one particular feedback incident.

In contrast, self-efficacy is a situationally-specific belief about one's ability to perform at a specific level given a particular performance situation. Self-efficacy not only affects one's desire for and reactions to feedback, but may itself vary as a result of feedback messages or the feedback environment as a whole. Not only are self-esteem and self-efficacy qualitatively different, but self-esteem may affect the development of self-efficacy following feedback. Conceivably, repeated changes in self-efficacy on dimensions central to one's self-concept could, over time, modify one's self-esteem.

Furthermore, self-esteem and self-efficacy are expected to interact as determinants of feedback related behaviors. For this reason, a model is set forth in this report to depict the dynamic nature of the relationships between self-esteem, self-efficacy, and the feedback-related responses. This model serves as a framework from which to develop the testable propositions and to better represent relationships that heretofore have not been thoroughly investigated.

Introduction

Feedback is a crucial part of the motivation process (Cusella, 1987). Thus, a great deal of attention has been paid to the theoretical development of an understanding of the feedback process. Feedback processing models have been developed by Ilgen, Fisher, and Taylor (1979), Taylor, Fisher, and Ilgen (1984), and Fedor (1991). These models provide an outline of: (1) the nature of feedback, (2) how feedback is processed, and (3) how the processing of feedback affects reactions to feedback. Such models focus on the reactions of feedback recipients once feedback is sent from some external source. There has also been a growing interest in the role of the individual as an active seeker of feedback (Ashford & Cummings, 1983).

Most treatments of feedback processing and feedback seeking acknowledge that individual differences (including trait variables, such as self-esteem, and state variables, such as self-efficacy) are likely to have an impact on how feedback is sought and processed. Numerous empirical studies have examined the impact of individual difference variables on acceptance of feedback (Alden, 1986; Sweeney & Wells, 1990), attributions concerning feedback (Fitch, 1970; McFarlin & Blascovich, 1981), satisfaction with feedback (Greenhaus & Badin, 1974; Aitkenhead, 1980), motivation and performance following feedback (McFarlin, Baumeister, & Blascovich, 1984; Brockner, Derr, & Lang, 1987), feedback monitoring (Bouffard-Bouchard, 1990; Fedor, Rensvold, & Adams, 1992), and feedback seeking (Knight & Nadel, 1986; Bennett, Herold, & Ashford, 1990). Many of these studies have included individual difference variables such as self-esteem (Weiss & Knight, 1980; Karl & Kopf, 1993), self-efficacy (Bandura & Cervone, 1983; Jatulis & Newman, 1991), ambiguity tolerance (Ashford, 1988; Bennett, Herold, & Ashford, 1990), achievement need (Trope, 1975; Steers, 1975), locus of control (Quagliere, 1980; Basgall & Snyder, 1988), and many others.

Unfortunately, despite the large number of studies that have included individual differences as variables, evidence of the precise role of these variables in feedback processing and feedback seeking is inconclusive and often confusing. This stems from the fact that the results of many studies are weak or non-significant, and sometimes contradictory. There are at least two possible reasons for this state of confusion. First, many studies (e.g. Greenhaus & Badin, 1974) fail to clearly define individual difference variables and distinguish them from other variables. Second, much research on individual differences in feedback behavior does not have a firm theoretical basis. Rather, these variables are included for exploratory purposes, or merely because it is convenient to do so. Thus, insignificant or confusing results may be due to the fact that studies have tried to determine main effects of individual differences on feedback behavior when there may be no theoretical basis for predicting such a main effect. Rather, it may be that individual differences moderate feedback related behaviors. However, without adequate specification of the ways in which individual differences should interact with other individual differences or with situational factors, the power of research to clarify individual difference relationships is diminished (Brockner, 1988).

In the vast array of studies addressing individual differences in feedback related behaviors, two of the most frequently studied variables have been self-esteem and self-efficacy. This paper will address the relationships between self-esteem (SE), self-efficacy, reactions to feedback, and feedback seeking. The paper will seek to show that SE, as a stable personality characteristic, influences individuals' reactions to feedback, as well as individuals' seeking of feedback. The impact of SE on reactions to feedback will also be shown to affect the development of self-efficacy. Self-efficacy affects on both the processing and seeking of feedback will be addressed. Furthermore, it is hypothesized that self-esteem and self-efficacy may interact in determining feedback related behaviors. Throughout the paper, factors that may moderate these relationships, such as task experience and feedback seeking environment, will also be examined.

Background

Both feedback and self-efficacy have been studied in detail because both constructs are seen as having important consequences for performance. Feedback can impact motivation, and is necessary for correcting performance. The goal setting literature has consistently noted that for goals to lead to higher motivation and performance, feedback must be provided (Bandura & Cervone, 1983; Gist, 1987). But the effect of feedback on motivation and performance will depend on how the feedback recipient processes such feedback. Thus, in recent years, there has been a great deal of research on how individuals process and react to feedback (Ilgen, Fisher, & Taylor, 1979; Taylor, Fisher, & Ilgen, 1984; Fedor, 1991).

Research is also beginning to focus on the role of the individual as an active seeker of feedback. Individuals are believed to seek feedback because they rely on it as a valuable resource for achieving success in organizational environments (Ashford & Cummings, 1983). Individuals have been found to be aware of feedback from a variety of sources within the work environment. Furthermore, they have preferences for different sources based on the perceived utility and reliability of information from the source (Greller & Herold, 1975; Hanser & Muchinsky, 1978). Thus, individuals are likely to make choices concerning where, when, and from what source they will seek feedback (Ashford & Cummings, 1983). Individual seeking and monitoring of feedback is seen as an important component of self-regulation and self-management processes (Ashford, 1989). Self-regulation and self-management are also seen as important to motivation and performance within organizations (Ashford, 1989; Karoly, 1993). Thus, it appears that the study of reactions to feedback, as well as feedback seeking, may provide a better understanding of how to improve employee motivation and performance.

Self-efficacy is also gaining attention among organizational researchers as a variable that has a significant, positive relationship with both motivation and

performance. Self-efficacy refers to one's belief in one's own ability to perform a particular task (Bandura, 1977; Gist, 1987). In models of self-regulatory behavior, this belief is seen as an internal standard against which performance feedback is compared (Taylor et al, 1984; Bandura, 1991). The comparison of feedback to an internal standard affects what reactions will follow. These reactions often include changes in effort or task persistence (Taylor et al, 1984). Therefore, self-efficacy may mediate the relationship between feedback concerning goal attainment and performance motivation (Bandura & Cervone, 1983). More recently, some of the focus of self-efficacy research has turned to training. Matthieu, Martineau, and Tannenbaum (1993) reported a positive relationship between self-efficacy and training attendance and interest in a voluntary training course. Thus, if attendance and interest in training lead to higher levels of subsequent performance on tasks, then it follows that self-efficacy may at least partially mediate the effects of training on future performance.

There seems to be a great deal of evidence to suggest that feedback processing, feedback seeking, and self-efficacy are important constructs for understanding motivation and performance. There is also evidence to suggest that there is a reciprocal relationship between self-efficacy and feedback reactions/seeking. Feedback has been shown to play an important role in the development of self-efficacy (Bandura & Cervone, 1983; Gist, 1987). Furthermore, some research indicates that self-efficacy affects reactions to feedback (Alden, 1986), as well as feedback seeking behavior (Jatulis & Newman, 1991).

What has not been demonstrated is the role of individual differences, such as SE, in affecting the relationship between feedback and the development of self-efficacy. Several decades of research suggests that SE has an impact on how individuals behave in work contexts. But the exact nature of SE-work behavior relationships, and explanations for why these relationships might exist, are unclear and open to debate. There is, however, growing evidence that the role of SE may be that of a moderator between feedback and reactions to feedback. As will be discussed in detail later, SE affects

individuals' reactions to feedback and search for information and feedback, and can ultimately impact motivation and performance. Since self-efficacy is also purported to lead to greater motivation and performance, it would be helpful to explore the relationship between SE, feedback, and the development of self-efficacy. This exploration may provide insights into how feedback can be more useful in increasing the self-efficacy and, subsequently, the performance of individuals.

Figure 1 (attached) diagrams the relationships that will be discussed in this paper. The diagram shows that once feedback is perceived by the individual, it is processed. This processing is affected by SE and by self-efficacy at the time the feedback is perceived (labeled efficacy₁ in the diagram). By way of its effects on feedback processing, SE and efficacy₁ affect the development of subsequent self-efficacy (efficacy₂). Furthermore, feedback processing and subsequent self-efficacy also affect the desire for additional feedback, as well as perceived costs of seeking additional feedback. Desire for feedback and perceived costs of seeking feedback affect actual feedback seeking behaviors. Thus, feedback seeking is one potential outcome of the processing of feedback. However, self-efficacy is also likely to affect intended responses to feedback in the form of goals for future performance, task persistence, and changes in effort. These intended responses are other outcomes of feedback processing.

We begin by examining the definitions of SE and self-efficacy. This discussion will focus on similarities and differences between SE and self-efficacy. We will also discuss the process by which individual self-efficacy develops. Next, we will explore some recent literature on the relationships between SE, processing of feedback, and reactions to feedback. From this it is concluded that SE affects the development of self-efficacy following the receipt of feedback, especially when task experience is low. Most importantly, it will be proposed that different types of feedback may be needed for the development of efficacy for low SEs than for high SEs. Self-efficacy is then discussed in terms of its affects on feedback processing and subsequent motivation and performance.

Our focus will then turn to feedback seeking as a potential outcome of the feedback process. Based on this discussion, we will propose that perceptions of feedback seeking costs moderate the SE-feedback seeking relationship. Finally, it is proposed that self-esteem and self-efficacy interact in determining feedback related behaviors.

Self-esteem and Self-efficacy

Before giving a detailed account of the relationships between SE, self-efficacy, and behavior, it is important to provide a clear definition of these constructs and note the distinctions between SE, self-efficacy, and other similar constructs. Some of the empirical and theoretical work relating to SE and self-efficacy has taken a very casual approach to defining the meaning and use of these constructs in research. This casual approach complicates the interpretation of the theoretical propositions and empirical results found in the literature.

Self-Esteem

Many different definitions of SE are available. Korman (1970) describes SE as the extent to which an individual "sees himself as a competent, need-satisfying individual." Dipboye (1977) refers to SE as "a person's enduring evaluation of himself or herself across situations". Brockner (1988) defines SE as a trait that refers to an individuals "degree of liking or disliking for themselves". These definitions point to SE as a global and chronic personality trait. Global SE is also viewed as an affective (Pelham & Swann, 1989) and evaluative trait (Campbell, 1990). This means that SE represents an attitude that directs how persons feel about themselves when they view themselves as an object of evaluation (Campbell, 1990). This distinguishes SE from other constructs such as self-efficacy (sometimes referred to as task specific self-esteem) which are task or situationally specific and are not necessarily affective in nature.

The development of SE is believed to begin very early in life. Children as young as infants seem to be aware of whether their life experiences are friendly and satisfying or hostile and threatening. Children also seem to be aware of whether they are accepted or rejected by others (Pelham & Swann, 1989). Low SE develops when children experience rejection, frustration, and threatening relationships. These negative experiences lead to anxiety, which is considered to be one of the most important components of low SE (Rosenberg, 1965). The feelings of anxiety and shame for low SEs, and pride and security for high SEs, tend to be stable and enduring as children grow to adulthood. These feelings of worthiness are the foundation of SE (Pelham & Swann, 1989). Furthermore, these feelings are believed to influence the way adults view themselves and the environment in which they operate (Pelham & Swann, 1989; Rosenberg, 1965).

There is some question as to whether global SE is composed of more specific cognitive self-appraisals. While certainly people hold both specific and general views of themselves, it is also becoming clear that global SE is not simply an aggregate of more specific facets of SE (Campbell, 1990; Pelham & Swann, 1989). Facets of SE include self-views on issues such as problem solving, physical abilities, social relations, and other issues (Marsh, 1986). They seem to be different from self-efficacy in that they represent general beliefs about one's attributes and abilities in certain types of situations, while self-efficacy represents one's expectation that they will be able to perform at a particular level in a specific situation. Facets of SE are likely to vary over time and across situations. An example of this can be found in a recent study of grade-school students by Johnson, Johnson, and Taylor (1993). They found that academic self-esteem, a person's belief that they are competent and worthwhile in academic settings, is significantly higher in cooperative learning situations than in individualistic learning situations. However, global "trait" SE will probably remain fairly constant over time and resistant to change (Campbell, 1990). Thus, while characteristics of the work environment may impact

certain work related facets of SE, they are not expected to have a significant impact on global SE (Tharenou, 1979).

These distinctions between facets of SE and global SE are important to the predictions we make concerning feedback reactions and seeking. It could be argued that predictions based on facets of SE may lead to a more accurate understanding of the relations between individual differences and work behavior (Fedor, 1991). However, global SE is qualitatively different from facets of SE, not merely an aggregation of them. It follows that global SE and more specific aspects of SE may act independently in affecting behavior. Therefore, our need for a better understanding of the relationship between global SE and work behaviors is not diminished by the need to also use facet measures of SE.

Recent empirical work by Campbell (1990) has investigated the effect of self-esteem on the clarity of an individual's self-concept. Self-concept refers to one's cognitive and affective evaluations of one's self and various attributes of the self. She found that persons with low SE are less confident in describing their self-concepts and took longer to rate their self-concepts than high SEs. Also, she found that low SEs, compared to high SEs, have self-concepts that are less stable over time and have general self-concepts that are less congruent with their more specific self-concepts. The fact that individuals with low SE have less clear and stable self-concepts may have implications for reactions to feedback and feedback seeking. Furthermore, this lack of clarity may also affect the development and strength of self-efficacy. These issues will be addressed later in this paper.

Self-Efficacy

Self-efficacy refers to one's belief in one's own ability to execute a particular task (Bandura, 1977; Gist, 1987; Gist & Mitchell, 1992). Thus, self-efficacy is task specific and should not be considered a stable personality trait, such as self-esteem. The

formation of efficacy beliefs depends on the processing of cues related to task requirements and personal capabilities (Gist & Mitchell, 1992). Bandura (1977) described four sources of information that lead to efficacy beliefs. The first of these is enactive mastery, which refers to repeated task experiences. Positive experiences (successes) lead to higher efficacy. Failures lead to lower efficacy. Enactive mastery is believed to be the most influential source of efficacy beliefs (Gist, 1987).

Second, vicarious experience can also serve as a source of efficacy beliefs. Vicarious experience occurs when an individual observes a model successfully (or unsuccessfully) perform a task. Vicarious experience (modeling) has been shown to be most effective when the model is similar to the subject in personal characteristics, when the model must first overcome some difficulty before succeeding on the task, and when the outcomes of the modeled behavior are clear (Gist, 1987). These aspects of modeling help the subject to attribute success to personal characteristics of the model (because the task was difficult) and to identify with the model (because they have similar personal characteristics). These attributions lead to the belief that they themselves can successfully perform the task (Gist, 1987; Gist & Mitchell, 1992).

A third source of efficacy information is verbal persuasion. This occurs when someone attempts to convince the subject of his or her ability to perform a task. Verbal persuasion is not believed to be as effective as enactive mastery or vicarious experience when it comes to increasing efficacy (Gist, 1987). Enactive mastery and vicarious experience are probably seen by the subject as more reliable sources of information. Since verbal persuasion may take the form of feedback, the power of verbal persuasion to influence subject efficacy probably depends on perceptions of source characteristics, such as competence and credibility (Ilgen et al, 1979).

Finally, Bandura (1977) asserts that physiological arousal may influence a person's belief in their capability to perform a task. He notes that a high state of arousal

could be interpreted as fear or anxiety. This fear or anxiety may make a person feel vulnerable to failure (Gist, 1987).

These sources of information (enactive mastery, vicarious experience, verbal persuasion, arousal) often provide feedback. This information must be processed by the recipient in order for efficacy beliefs to form. Gist and Mitchell (1992) outlined three processes of analysis that transform information into efficacy beliefs. These are: (1) analysis of task requirements, (2) attributional analysis of experience, and (3) assessment of personal and situational resources and constraints. Task analysis involves making inferences about what capabilities and levels of effort will be required in order to achieve various levels of performance on the task. Attributional analysis of experience involves determining causes for past experiences (successes or failures on relevant tasks). Past experiences can be attributed to internal causes (ability, effort) or external causes (task difficulty, luck). Ability and task difficulty are seen as stable causes of outcomes which are not likely to change much over time. Effort and luck are unstable causes that are likely to change over time, complicating the assessment of efficacy expectations. The analysis of task requirements and attributional analysis of experience provide knowledge of what is needed to perform at a certain level. The individual must then analyze personal and situational resources and constraints in order to determine whether they possess the ability and motivation to accomplish the task.

Bandura (1977) notes three dimensions to self-efficacy: magnitude, strength, and generalizability. Magnitude refers to the level of performance an individual believes that he or she will achieve. Strength refers to the confidence the individual has that he or she will achieve a particular level of performance. Generalizability refers to the extent to which efficacy expectations for a task generalize across situations (Gist, 1987). Self-efficacy magnitude is typically measured by presenting a subject with a range of performance levels for a task, and then asking the subject to respond with a 'yes' or a 'no' as to whether they can perform at that level for each of the levels listed. Strength is

measured by asking the subject to indicate their confidence, expressed as a percentage, that they will perform at a particular level of task difficulty (Bandura, 1986; Locke, Frederick, Lee, & Bobko, 1984; Eyring, Johnson, & Francis, 1993).

Self-Esteem and Reactions to Feedback

One of the most consistent findings concerning the SE - feedback relationship is that low and high SEs respond differently to negative feedback. There is also evidence, though not as consistent, that low and high SEs respond differently to positive feedback. Compared to persons with high SE, low SEs remember negative feedback more accurately (Shrauger, 1975; Aitkenhead, 1980), view negative feedback as more credible and accurate (Shrauger, 1975; Robinson & Smith-Lovin, 1992), and are more likely to accept negative feedback (Sweeney & Wells, 1990). Furthermore, low SEs view an evaluator who delivers negative feedback to be more competent and attractive than do high SEs (Robinson et al, 1992). When it comes to positive feedback, there is some evidence that high SEs retain and accept such feedback more than do low SEs (Shrauger, 1975; Sweeney & Wells, 1990), but most studies find that differences between high and low SEs are more pronounced after negative feedback than after positive feedback.

The attributions that people make about performance are seen as important determinates of motivation. It seems clear from the literature that low SEs and high SEs make different attributions following the receipt of feedback. After receiving negative feedback, low SEs attribute performance to internal factors such as ability and effort more than do high SEs (Fitch, 1970; Shrauger, 1975; Campbell, 1990). As for attributions of positive feedback, some studies have found no differences between high and low SEs (Fitch, 1970), whereas others (Rhodewalt, Morf, Hazlett, & Fairfield, 1991) have found that high SEs are more likely to attribute success internally.

Consistent with theories of motivation, it appears that the differential effect of SE on performance attributions does in fact lead to differences in the development of self-

efficacy and differences in performance following feedback. Tang and Sarsfield-Baldwin (1991) present results of an experiment in which no differences in self-efficacy were found between high and low SEs before performing a task. However, after subjects completed the task and received performance feedback, high SEs reported higher certainty of their ability to achieve performance goals on the task. McFarlin and Blascovich (1981) report similar results, except that the difference was greater after negative feedback than after positive feedback. Negative feedback also appears to have a more adverse effect on motivation and performance for low SEs than for high SEs. High SEs persist longer (McFarlin, Baumeister, & Blascovich, 1984) and perform better (Brockner, Derr, & Laing, 1987) than low SEs after negative feedback. Thus, even though low SEs can be expected to remember negative feedback, it appears that they often do not use it to improve performance. The study by Brockner et al (1987) did not find performance differences after positive feedback. This again points to the fact that SE may have a much greater moderating effect on negative feedback than positive feedback.

Herold and Greller (1977) found evidence that individuals distinguish between sources of positive feedback, but not negative feedback. This is interesting in light of findings that show that SE affects reactions to negative feedback more than reactions to positive feedback. It could be that when it comes to positive feedback, source considerations (i.e., credibility, perceived intent of the source) affect reactions more than does SE. However, for negative feedback, SE may have a greater impact than source considerations. Further research could examine whether feedback source or source credibility moderate the effect of low SE on reactions to negative feedback.

The findings presented thus far indicate that SE does have an impact on how people process and respond to feedback. These responses are both affective and cognitive, which ultimately lead to differences in motivation and performance. While it is clear that there are relationships between SE and feedback reactions, the causes of

these relationships are not always so clear. Several theories have been proposed that might explain why these relationships exist.

Consistency Theory

Self-consistency theory posits that individuals are "motivated to perform on a task or job in a manner which is consistent with the self-image" and "will tend to choose and find most satisfying those job and task roles which are consistent with their self-cognitions" (Korman, 1970). Korman derived his theory from dissonance and balance theories. Such theories (Festinger, 1957) suggest that people want their behaviors to be consistent with their attitudes and beliefs. When behaviors are incongruent with beliefs, then the individual experiences tension which serves as motivation to reduce the incongruity. Extending from this, Korman concluded that high SEs will perform better than low SEs. Furthermore, Korman concludes that the relationship between performance and satisfaction will be higher for high SEs and that high SEs will be more likely to choose occupations that are congruent with their needs and abilities. These predictions are derived from Korman's definition of self-esteem as the extent to which individuals see themselves as competent and need satisfying. Thus, persons high in SE will be motivated to perform more competently, will be more satisfied after performing competently, and will be more likely to choose need-satisfying jobs than will persons of low SE. According to consistency theory, low SEs are less likely to engage in these behaviors because to do so may create tension.

Consistency theories provide one basis from which to make predictions about how SE will affect individuals' seeking, processing, and reactions to feedback. If consistency theory is correct, we would expect persons to desire feedback that is consistent with their level of SE. That is, persons with high SE are more likely to desire feedback that is positive, whereas persons with low SE are more likely to desire feedback that is negative. We might also expect persons to evaluate feedback in a manner that is consistent with

their level of SE. Thus, persons with high SE would be more likely to view positive feedback as more accurate or credible, and would be more likely to view such positive performance as due to internal factors (ability, effort) rather than external factors (luck, task difficulty). Finally, we would expect persons with high SE to be more satisfied with positive feedback and less satisfied with negative feedback than low SE persons.

Empirical studies provide only partial support for consistency theory. As noted earlier, many studies have found that people make judgments of feedback accuracy and attributions of performance in a manner that is consistent with SE. However, it has not been found that low SEs are more satisfied with negative feedback, or even that they are less satisfied with positive feedback than high SEs. Nor is it warranted to say that low SEs actually seek out consistent feedback. In fact, while there is evidence that low SEs are more active seekers of feedback (e.g. Fedor, Rensvold, & Adams, 1992), there are also studies showing that low SEs are more fearful of negative feedback than are high SEs, and react by avoiding situations that might bring about such evaluations (Brockner et al, 1987; Josephs, Larrick, Steele, & Nisbett, 1992). Thus, consistency theory does not adequately account for empirical findings. Other theories must be examined that can either compliment or replace consistency theory.

Enhancement Theory

One such theory is self-enhancement theory. Self-enhancement theory posits that all people have a need to achieve and maintain high levels of SE (Dipboye, 1977). From this we would hypothesize that both high and low SEs would be motivated to perform well and would react positively to positive feedback and negatively to negative feedback. There is some support for these hypotheses. Most research (e.g. Shrauger, 1975) has shown that people report higher satisfaction after positive feedback than after negative feedback, regardless of SE level. Dipboye (1977), in a criticism of self-consistency

theory, notes low SE is associated with higher anxiety, fear of failure, and fear of criticism. Thus, low SEs should be motivated to avoid negative evaluations.

The desire to avoid negative evaluations may explain why low SEs respond to failure feedback by quitting or reducing effort. There are several ways in which people can avoid negative evaluations. They can work harder to achieve better performance, and thus receive less negative feedback. They can avoid situations that might place them in jeopardy of negative feedback (Brockner et al, 1987; Josephs et al, 1992). They can try to prevent or pre-empt the delivery of negative feedback (Larson, 1989). They can alter their perceptions of feedback by ignoring it, making excuses for it, or attributing it to external or unstable causes. One explanation for lower levels of performance for those with low SE after negative feedback is that they react defensively to esteem threatening situations by quitting or exerting less effort (Dipboye, 1977). In this way, they can attribute failure to lack of effort rather than to lack of ability, presumably because attributions to lack of effort are less threatening than attributions to lack of ability.

Self-consistency theory asserts that individuals are motivated to avoid cognitive dissonance or imbalance. Self-enhancement theory asserts that individuals are motivated to enhance SE. Both theories have some merit and empirical support. It appears that cognitive reactions to feedback (retention, acceptance, attribution) are often consistent with SE. However, most research to date shows that people seek, and prefer to receive positive feedback. Low SEs may be even more pleased with positive feedback and less pleased with negative feedback than high SEs (Campbell, 1990). This finding supports enhancement theory and contradicts consistency theory for affective reactions to feedback.

Behavioral Plasticity Theory

Consistency and enhancement theories provide insights into the cognitive and affective processes that influence SE - feedback - behavior relationships. Brockner

(1988) proposed his "behavioral plasticity" hypothesis to provide better explanation and predictions of these relationships. According to Brockner, low SEs are more behaviorally plastic. Behavioral plasticity refers to the extent to which a person's attitudes and actions are susceptible to influence by external, or social, cues. Thus, persons who are more behaviorally plastic are more likely to be influenced by the behaviors of others, as well as feedback from others.

Brockner (1988) notes that there are three reasons why low SEs are more behaviorally plastic than high SEs. First, low SEs are more likely to engage in social comparison. This is because social comparison is done in order to reduce uncertainty. Since low SEs have been shown to experience more uncertainty related to self-concept (Campbell, 1990), it follows that low SEs will engage in more social comparison in order to reduce this uncertainty.

The second reason for the behavioral plasticity of low SEs is that they are likely to have a higher need for approval and thus engage in more conscious self-presentation behaviors. Low SEs seek more positive external evaluations because they have less of a propensity to generate them internally. Thus, in order to gain these positive external evaluations, they conform to the beliefs and attitudes of others in order to gain their approval. This is consistent with self-enhancement theories of behavior. Low SEs desire to enhance SE just as much as high SEs. Their negative self-evaluations mean that self-enhancement must be achieved by different means.

Finally, Brockner's third reason for asserting that low SEs are more behaviorally plastic is that low SEs may view feedback, particularly negative feedback, as being self-diagnostic. Since the self-evaluations of low SEs are less stable and usually more negative than those of high SEs, they are more likely to view negative feedback on performance as reflecting not only on performance, but on their self-worth. Low SEs tend to overgeneralize negative feedback on task performance to other aspects of their personal identities (Kernis, Brockner, & Frankel, 1989). This would seem to explain the

findings that low SEs are more likely to attribute failure to lack of ability than to external causes. This also provides an explanation for why negative feedback on one task has a detrimental effect on expectations of subsequent performance on unrelated tasks for low SEs, but not for high SEs (McFarlin & Blascovich, 1981).

The review of theories and empirical findings concerning the relationship between SE and reactions to feedback leads to several conclusions that will be useful as I examine feedback seeking and self-efficacy. As posited by consistency theory, it appears that persons cognitively process feedback in a manner that is consistent with their SE. Compared to high SEs, low SEs are more likely to accept negative feedback as accurate and attribute negative feedback internally and positive feedback externally. However, as posited by enhancement theory, individuals desire positive feedback regardless of their SE. Behavioral plasticity theory integrates these findings and leads to the following conclusions: (1) low SEs desire external positive feedback because they are less able to generate it internally, (2) low SEs are more fearful of negative feedback because they view it as more accurate and diagnostic of their worthiness, and (3) low SEs are more dependent on external feedback because they are less sure of their own self-concepts. These general conclusions are helpful for making more specific propositions related to SE-self-efficacy relationships and SE-feedback seeking relationships, which are examined in the following sections.

Impact of Self-Esteem on the Development of Self-Efficacy

As this review has shown, SE affects the processing and interpretation of sent feedback. This has implications for the development of self-efficacy. As Bandura (1977) notes, "the impact of information on efficacy expectations will depend on how it is cognitively appraised" (p. 200). Since processing and interpretation of feedback is essential to the development of self-efficacy, it follows that SE will moderate the feedback - efficacy relationship. Since persons of low SE are more likely to attribute

positive performance feedback to external factors such as luck, positive feedback will probably have less of an efficacy enhancing effect on low SEs than on high SEs. If the development of self-efficacy depends in part on positive feedback, and if persons of low SE tend to fail to accept the accuracy of positive feedback, or attribute positive feedback to external factors, then it will take longer for low SEs to develop high self-efficacy on a particular task. Also, the effects of negative feedback on self-efficacy will probably be greater for low SEs than for high SEs, since low SEs are more likely to attribute negative feedback internally.

Proposition 1 - Following the receipt of outcome feedback, low SEs will have lower self-efficacy than high SEs.

Taylor et al (1984) concluded that internal standards, and the manner in which feedback was compared to these standards, were major determinates of reactions to feedback. Standards are closely related to self-efficacy. But when a person is beginning work on a novel, unfamiliar task, standards based on SE may be stronger than standards based on self-efficacy. Later, a person's experience on the task may provide a stronger basis for performance standards. Therefore, SE could have its greatest impact on feedback related behaviors when an individual is faced with a novel task. Then, as efficacy expectations develop and change with task experience, self-efficacy becomes a greater determinate of feedback behavior.

Proposition 2 - SE will have it's greatest effects on reactions to feedback when an individual is faced with a novel task. Later, as the individual gains more experience on the task, self-efficacy will gain importance in determining reactions to feedback.

SE should affect the development of standards against which feedback is compared. Taylor et al (1984) note three potential sources of standards: (1) internal values and attitudes, (2) observation and communication with others, and (3) higher level standards. While SE may affect each of these three sources, it may have the greatest impact on the extent to which individuals rely on observation and communication with others when setting internal standards. Behavioral plasticity theory (Brockner, 1988)

would predict that persons low in SE would rely more on external cues than internal values and attitudes. Just the opposite would be the case for high SEs, who will seek less standard information from others, relying more on internal standards (Weiss & Knight, 1980). Since values and attitudes are relatively stable (Taylor et al, 1984) and external cues can be expected to vary considerably over time, it seems likely that the standards of low SEs are more malleable than the standards of high SEs. Extending from this, a person's initial self-efficacy on a novel task may be a function of self-esteem and initial instruction on the task. It may be that low SEs initial self-efficacy is much more malleable (dependent on instruction, modeling, persuasion by the instructor) than the self-efficacy of high SEs.

Proposition 3 - In novel task situations, the development of self-efficacy for low SE persons is more dependent on external feedback and instruction (modeling, persuasion). High SEs rely more on intrinsic feedback (task experience) for the development of efficacy judgments.

More work is needed to determine the differential effects of process vs. outcome feedback on the development of self-efficacy. These effects will probably be moderated by (1) SE of the feedback recipient, and (2) the sign of the feedback. For instance, giving only negative outcome feedback to a person with low SE may lead to inaccurate attributions of the cause of the poor performance, leading to lower self-efficacy, effort, and lack of persistence. Thus, for low SEs, greater emphasis on accurate process feedback may be needed to correct these inaccurate attributions. On the other hand, the fact that high SEs often fail to engage in information search means that they will often be less aware of performance problems. High SEs may fail to attend to and elaborate outcome feedback if they don't understand that behavioral changes are needed in order to improve performance. Thus, accurate process feedback may encourage them to make attributions of low performance to factors such as ability or effort rather than luck or task difficulty when such attributions are appropriate. In other words, accurate process feedback may change the attributional analysis of experience that is a part of the development of self-efficacy.

Proposition 4 - When accurate process feedback is given along with outcome feedback, the difference between the self-efficacy of high v. low SEs will be less than when only outcome feedback is given.

Self-efficacy and Feedback Reactions

Up to this point, we have focused on self-efficacy as a dependent variable. Self-efficacy has been argued to be a function of feedback related behaviors and self-esteem. However, as mentioned earlier, there appears to be a reciprocal relationship between self-efficacy and feedback related behaviors. While there has been a great deal of research on how feedback affects the development of self-efficacy, there has also been research on how self-efficacy affects reactions to feedback and feedback seeking. This research will be examined now.

High self-efficacy individuals expect to perform well and receive positive performance feedback. Persons with high efficacy expectations are more satisfied when they receive positive feedback, but there appears to be little correlation between feedback sign and satisfaction with feedback for low efficacy subjects (Greenhaus & Badin, 1974). This lack of relationship between satisfaction and feedback sign for low efficacy subjects may be because they do not expect to perform well on a particular task, and therefore do not expect positive feedback. Thus, it appears that self-efficacy may moderate the relationship between feedback sign and affective reactions to the feedback.

Proposition 5 - The relationship between feedback sign and satisfaction with feedback is higher for persons with high self-efficacy than for persons with low self-efficacy.

Persons with high self-efficacy also tend to view positive feedback as more accurate than negative feedback, and will attribute negative performance feedback to external factors such as luck or task difficulty. In contrast, persons with low efficacy tend to attribute positive feedback to external factors (Alden, 1986). However, given the findings presented earlier indicating that low SEs attribute failure internally and success

externally, it seems likely that SE moderates the efficacy - attribution relationship. Furthermore, if SE has its greatest effect on feedback reactions early in the task performance process, as posited earlier, then it seems likely that this moderating relationship is also likely to have its greatest effect early in task performance. Later, as self-esteem becomes less important for determining attributions, self-efficacy will affect attributions independently of SE.

Proposition 6 - Persons with high self-efficacy will tend to attribute negative feedback externally and positive feedback internally.

Proposition 7 - Persons with low self-efficacy will tend to attribute negative feedback internally and positive feedback externally.

Proposition 8 - In novel task situations, SE will moderate the self-efficacy - attribution relationship. However, as persons gain task experience, self-efficacy will affect attributions independently of SE.

Numerous studies have found that high self-efficacy is related to higher performance (Gist, 1987). There are two possible explanations for these findings. First, it could be that persons reporting higher self-efficacy simply are making an accurate assessment of their own ability to perform the task. In this case, efficacy would not necessarily cause higher performance, but would be merely an outcome of previous performance. Another explanation of the positive efficacy - performance relationship is that high self-efficacy leads to higher motivation to perform well on a task (Bandura, 1977). In this case, understanding the antecedents of self-efficacy and the conditions under which self-efficacy leads to higher motivation will provide valuable tools for improving performance.

There is evidence that self-efficacy does in fact lead to higher motivation. This higher motivation is likely to be a result of the way self-efficacy affects cognitive and affective reactions to feedback. Persons with higher self-efficacy tend to set higher goals for themselves and have higher self-dissatisfaction when goals are not achieved (Bandura & Cervone, 1983). This finding is in line with feedback processing models which assert that greater discrepancies between feedback and internal standards lead to greater

elaboration, as well as negative affect if the feedback is negative (Taylor et al, 1984; Fedor, 1991). Bandura and Cervone also found that self-efficacy has the greatest impact on motivation when both performance goals and performance feedback are available. Also, negative feedback appears to have a positive effect on motivation for persons with high expectations, but a negative effect or no effect for persons with low expectations. This is because persons with high expectations experience greater self-dissatisfaction after negative feedback, and thus will try harder to achieve the level of performance that they expect. Persons with low expectations are more likely to see negative feedback as confirmation of their lack of ability, and thus believe that more effort will have no effect on performance.

Feedback Seeking

The discussion thus far has focused on the effects of SE and self-efficacy on reactions to feedback received by the recipient. Most treatments of feedback processing view behavioral responses as the end product of the feedback process. However, feedback processing is often an iterative process, with the generation of additional feedback as the mechanism that starts the process over again. Feedback seeking is now gaining attention as an important part of the feedback process. Thus, the effect of SE and self-efficacy on feedback seeking should also be examined.

Before offering propositions concerning SE, self-efficacy, and feedback seeking relationships, it is first necessary to provide a brief review of feedback seeking concepts. Until fairly recently, the individual has been viewed as a passive recipient of feedback messages. Feedback was seen as a resource to be employed by the organization. The purpose of this resource was to direct, control, and motivate employee behavior and performance. Research on feedback focused primarily on the individual's perception, processing, and reactions to feedback. A common result of such research has been advice on how supervisors and formal appraisal systems can best deliver feedback to the

individual. Such advice has concerned the type (process v. outcome), sign, frequency, and timing of feedback. The apparent goal of such advice has been to get the recipient of feedback to perceive it accurately, accept it as accurate (avoiding confusion and defensive reactions) and to respond appropriately. Of course, the appropriate response was one that was in accordance with supervisor and organization goals.

Research by Greller and Herold (1975) and by Hanser and Muchinsky (1978) suggested that feedback should not be viewed as simply a formal organizational resource. Their research showed that individuals are aware of feedback from a variety of sources within the work environment. Furthermore, individuals distinguish between sources according to information value and content. Greller and Herold (1975) found that individuals rated feedback sources psychologically closer to themselves (e.g. self and task) to be more informative than more distant, external sources, such as the formal organization or the supervisor. Hanser and Muchinsky (1978) found that individuals also distinguish between sources according to the reliability of feedback information. They found that supervisors, the task itself, and personal thoughts and feelings were rated as more reliable than co-workers or the formal organization. These findings show that workers have preferences for information from certain sources (Hanser & Muchinsky, 1978) and would suggest that individuals will, to the extent possible, make choices concerning where feedback will come from.

Thus, while research from an organizational resource perspective has been fruitful, it typically has overlooked the fact that individuals desire feedback, and not necessarily for the same reasons that the organization desires to give it. Ashford and Cummings (1983) outlined the concepts of feedback as an individual resource. Individuals desire to perform well in their jobs and help the organization to achieve its goals. Furthermore, they have personal goals that are linked to their role in the organization (e.g. promotion). Feedback serves several functions that help the individual achieve these goals. Individuals are motivated to seek feedback because it: (1) helps one

determine the relative importance of different goals and the potential costs and rewards of achieving those goals, (2) reduces uncertainty about the effectiveness of certain behaviors in achieving both personal and organizational goals, (3) helps to create an environment where it is possible to achieve a sense of competence, and (4) satisfies the individual drive to self-evaluate. Ashford and Cummings (1983) noted that the behaviors and outcomes for which individuals seek feedback are likely to be different and more varied than the behaviors and outcomes for which the organization sends feedback. For instance, individuals have social goals that include making friends and managing impressions.

Ashford & Cummings (1983) outlined factors that they believe affect the level of feedback seeking, as well as the strategy of feedback seeking engaged by the individual. The level of feedback seeking is determined, in part, by the perceived value of feedback. The value of feedback is determined by whether or not it helps satisfy needs for achieving competence, reducing uncertainty, correcting errors, and self-evaluation. These needs will be higher in certain contexts. For instance, when role ambiguity is high or non-routine technology is needed to accomplish goals, active feedback seeking can be expected because feedback has higher value (Ashford & Cummings 1983).

The amount of information sent by others may also affect the perceived value of additional feedback. Ilgen et al (1979) noted that the usefulness of a feedback message depends on whether it has incremental informational value over the recipient's present knowledge about performance. Therefore, it could be argued that individuals will not devote effort to seeking feedback if they perceive they already have enough of it (Ashford & Cummings, 1983). But this relationship is not as clear as it may seem. Ashford (1986) found a positive relationship between amount of feedback recently received and self-reported feedback inquiry and feedback monitoring. This suggests that when people receive feedback, they may be cued to pursue even more feedback, especially if the

feedback is reinforcing (Ilgen et al, 1979) or leads to greater feedback related uncertainty (Fedor, 1991).

Individuals can engage in two types of feedback seeking strategies, monitoring and inquiring (Ashford & Cummings, 1983). Monitoring involves observing the environment, situation, and other people and interpreting feedback cues obtained from this observation. The inquiry strategy involves directly asking another person to evaluate particular behaviors. Individuals will often engage in both monitoring and inquiry. However, because feedback seeking involves costs, and since costs may vary according to the feedback seeking strategy chosen, the perception of potential feedback seeking costs will likely affect which strategy is chosen (Ashford & Cummings, 1983).

Ashford and Cummings (1983) described three potential costs to feedback seeking: (1) effort costs, (2) face loss costs, and (3) inference costs. Effort costs refer to the amount of effort needed to get the feedback. Face loss costs refer to the risk that the act of asking for feedback will lead to negative perceptions of the seeker by others or disclosure of information that the seeker doesn't want to disclose. Inference costs refer to the amount and type of interpretation that is required in understanding the feedback message. Individuals are hypothesized to actively seek feedback when the perceived value of the feedback exceeds the perceived costs of obtaining it.

When it comes to feedback seeking, individuals also have an ego defensive motivation. People have a desire to enhance their self-esteem (Dipboye, 1977). Thus, they desire to hear positive feedback concerning themselves and their performance. This leads to a conflict between a desire for accurate feedback and a desire for positive feedback. Behavioral defenses such as avoiding feedback and restricting information search are mechanisms for defending the ego, especially when negative feedback is anticipated (Ashford & Cummings, 1983).

In summary, there is evidence that individuals are aware of a variety of different sources of feedback and strategies for obtaining feedback. The choice of where, when,

and how to obtain feedback will probably be most affected by: (1) desire for feedback, and (2) perceived costs of obtaining such feedback. The desire for feedback and perceived costs of feedback seeking will often depend on how previous feedback is processed. Therefore, the aforementioned evidence concerning the effects of SE and self-efficacy on feedback processing suggests that these individual difference variables are also likely to affect feedback seeking.

Self-Esteem and Feedback Seeking

There are several reasons to believe that low SEs will engage in more feedback seeking from external sources than will high SEs. Taylor et al (1984) listed three conditions that will increase frequency of standard testing. First, persons with a high self-focus will test standards more often. To the extent that self-focus is negatively correlated with SE (Brockner, 1988), we would expect low SEs to engage in more standard testing. Second, uncertainty about ability will increase standard testing. Persons low in SE have been shown to have more uncertain self-concepts (Campbell, 1990) and self-concepts related to ability may be one of these uncertain concepts. Finally, when standard attainment is more highly valued, standard testing should increase. SE could affect the degree to which some tasks are valued over others. To speculate further, since low SEs have a higher need for approval, they may value more highly the achievement of those tasks that they think will lead to approval and praise from others. In contrast, high SEs may be more concerned with standards related to personal values, regardless of whether this will lead to the approval of others. Of course, whether or not this is functional from an organizational standpoint depends on the degree to which personal values and standards match those of the organization.

Low SEs may value different feedback and may value different sources of feedback than high SEs. Low SEs may see external feedback as more valuable because they feel less confident in their own judgments of performance (Campbell, 1990). This

uncertainty about performance should motivate feedback seeking from external sources. Thus, they might be expected to use an inquiry strategy more often. On the other hand, perceptions of feedback seeking risks and costs are likely to be higher. As shown earlier, negative feedback is likely to be attributed internally and seen as diagnostic of their own abilities. This suggests that, at least in some situations, low SEs may be more reluctant to actively inquire for feedback.

A few studies have addressed the question of whether SE affects the seeking of feedback. Some studies have found that low SEs seek more information and feedback. For example, Weiss and Knight (1980) found a relatively strong negative correlation between SE and requests for information while performing an experimental task. The lack of information search among high SEs appears to have been dysfunctional, as it led to a greater number of incorrect solutions to the task. In a separate experiment, Knight and Nadel (1986) also found a negative correlation between SE and requests for performance feedback. Subjects in this study conducted a computerized management simulation task in which they chose management policies, and changed them if they felt it necessary. Subjects were allowed to ask for feedback in the form of general performance feedback, as well as an operating budget balance. Not only did high SEs request less feedback, but they also were more consistent in their policy decisions in that they did not change them as often as did low SEs. These studies provide support for the proposition that low SE's desire more external feedback than do high SE's.

Proposition 9 - Persons with low SE desire more external feedback than do persons with high SE.

There is evidence, however, that in some situations, low SEs will seek less feedback than high SEs. Brockner et al (1987), in a laboratory setting, found that low SEs were less willing to make suggestions when they felt that the suggestion might lead to negative feedback. This effect was not found for high SEs. A study by Josephs et al (1992) found that in situations where negative feedback had previously been delivered, or

there was an expectation of negative feedback, low SEs became more risk averse than high SEs. Karl and Kopf (1993) found a weak positive correlation between SE and feedback seeking. Feedback seeking in this case was choosing to review a videotape of a class presentation. This study also found that low public self-consciousness moderated the SE - feedback seeking relationship. Persons low in public self-consciousness and high in SE were most likely to choose to review the videotapes of their performance. These three studies suggest that in situations where negative or threatening feedback is common or likely, high SEs may be more active seekers of performance feedback.

A recent study by Fedor et al (1992) provided some better insights into the relationship between SE and feedback seeking, but also showed that the exact relationship is still unclear. They found that SE was negatively correlated with self reports of feedback soliciting from an instructor. Perceived feedback related uncertainty, feedback seeking costs, and feedback source credibility were also included as predictors in their study. Low SEs perceived greater feedback related uncertainty and also perceived external feedback sources to have higher credibility. These results could be interpreted to be the cause of higher eliciting among low SEs, since uncertainty and higher source credibility should increase the value of feedback. However, low SEs were also found to perceive higher feedback seeking costs. Feedback seeking costs should be negatively related to actual eliciting (Ashford and Cummings, 1983). The study by Fedor et al (1992) confirmed this prediction. Thus, while the Fedor et al study found that low SEs do in fact report higher levels of feedback eliciting, it also shows that low SEs face conflicting pressures. This further suggests that situational variables (e.g. threatening situations, etc.) might moderate the SE - eliciting relationship.

Thus, while there is evidence that low SEs are often more active feedback seekers, there is also evidence that low SEs perceive greater costs to feedback seeking. Furthermore, there is evidence that low SEs may be less willing to seek feedback when the potential for threatening, negative feedback is high. Therefore, it is proposed that

some feedback seeking costs (esteem threatening situations) will have a greater impact on low SEs than on high SEs.

Proposition 10 - Persons with low SE are more likely to perceive higher feedback seeking costs.

Proposition 11 - Perceived feedback seeking costs moderate the relationship between SE and feedback seeking.

If these propositions are supported, it will have implications for how we interpret most of the empirical findings concerning the SE-feedback seeking relationship. The studies reported here that showed SE to be negatively related to feedback seeking occurred in lab or training sessions where feedback seeking was clearly expected. The manner in which feedback was sought was also clearly prescribed (for instance, executing computer commands or asking an instructor for feedback). Because feedback seeking is expected (and even encouraged) in these situations, feedback seeking costs (and the uncertainty of what those costs really are) may be much lower than in other work settings. In non-training situations, deciding how to obtain feedback can be a real dilemma, with numerous political consequences. For instance, asking for feedback may be seen as a sign of weakness and insecurity, especially in situations where individuals are expected to be able to evaluate their own performance. Also, asking for feedback may draw attention to poor performance. Thus, while feedback eliciting can lead to positive impressions in training situations, it will often lead to more negative impressions in non-training situations. In such situations, the costs of seeking feedback may be unknown. Furthermore, any feedback that is received is likely to be more ambiguous than feedback received in training situations. Persons low in SE are likely to perceive higher feedback seeking costs (Fedor et al, 1992) and to interpret ambiguous feedback more negatively (Brockner, 1988). Thus, while persons with low SE may desire more feedback and may seek more feedback in some settings, they may actually seek less feedback in the most common work settings.

Self-efficacy - Self-esteem Interactions in Relation to Feedback Seeking

Expectations of positive feedback appear to lead high efficacy subjects to be more likely to seek out ability relevant feedback. Studies have found a positive relationship between efficacy and choice of tasks that provide immediate feedback (Brown, 1990), as well as a positive relationship between efficacy and actual feedback seeking (Northcraft & Ashford, 1990; Karl & Kopf, 1993). However, Jatulis and Newman (1991) found that low efficacy persons reported a greater need for information and a greater need to talk to others in a decision making situation. While persons low in self-efficacy may have a greater need and desire for information and feedback, they also tend to perceive higher feedback seeking costs (Rensvold, 1993). An important implication of these findings is that persons who are low in self-efficacy, who presumably have the greatest need for performance feedback, are the least likely to seek the feedback needed to improve performance and raise their own efficacy expectations.

Earlier, it was noted that persons with high self-efficacy experience greater dissatisfaction after negative feedback than do persons with low self-efficacy. Persons with low self-efficacy tend to view negative feedback as a confirmation of their lack of ability. This internal attribution of negative feedback may explain why persons with low self-efficacy often do not seek additional feedback. Not only will persons suffering from low self-efficacy perceive higher feedback seeking costs (Rensvold, 1993), but they may also view additional feedback as unnecessary since they lack the ability to use that feedback to improve performance.

Proposition 12 - Persons high in self-efficacy will engage in more feedback monitoring and eliciting than will persons low in self-efficacy.

This may also have implications for the interaction between self-efficacy and self-esteem. In situations where a person has high SE but has low self-efficacy (i.e., when they are beginning a novel and complex task), that person may be more likely to seek feedback than persons with low SE. Persons with low self-esteem are likely to perceive

greater feedback seeking costs (as noted earlier). Thus, when self-efficacy is low, the situation may be perceived as more threatening, thus making it even more likely that low SEs will be afraid to seek external feedback. In contrast, it is likely that high SEs with low self-efficacy will (1) perceive the need for external feedback, and (2) not be afraid to seek it.

Proposition 13 - When self-efficacy is low, persons with high SE are more likely to seek external feedback than persons with low SE.

Proposition 14 - When self-efficacy is high, persons with low SE are more likely to seek external feedback than persons with high SE.

Self-efficacy may also be positively related to one's ability to self-assess one's own performance. Bouffard-Bouchard (1990) found that high efficacy subjects were better able to evaluate the correctness of their answers to a problem than were low efficacy subjects. High efficacy may be due, in part, to a better understanding of the task at hand, which also enables the individual to assess how well the task was performed. It is unclear whether this greater ability to self-assess leads to greater feedback monitoring and feedback eliciting.

Gist and Mitchell (1992), in a paper outlining the determinants of self-efficacy, noted that persons with high experience on a task may rely on automatic processing in the development of their efficacy expectations for that particular task. Persons with little experience on the task, however, may need to resort to more controlled processing in order to assess their own abilities, the difficulty of the task, and constraints on task performance. Extending upon this, it seems likely that persons with high efficacy strength (but not necessarily magnitude) will engage in more automatic processing, and thus engage in less active feedback seeking. This may occur whether performance standards are high or low. It is the uncertainty of whether or not the standard will be attained that will lead to greater desire for feedback (Ashford & Cummings, 1983) or greater elaboration of perceived feedback (Fedor, 1991). Persons with high efficacy strength have more confidence that their performance will be at a certain level

(magnitude), and thus may feel less of a need to get feedback on their performance. If this proposition is supported, it would provide further evidence for the notion that lack of clarity and greater uncertainty concerning one's own self-concept is a motivator of feedback seeking. It may also point to the need clearly distinguish between strength and magnitude in future studies of the effects of self-efficacy on feedback related behaviors.

Proposition 15 - Strength of self-efficacy is more important than magnitude of self-efficacy for determining feedback seeking behaviors (both monitoring and eliciting). Persons who are less certain of their ability to perform a task will desire more performance feedback.

Summary

This paper sought to outline the relationships between SE, self-efficacy, and feedback related behaviors. It was shown the SE affects reactions to feedback. The differential effect of SE on feedback reactions is due to differences in the manner in which feedback is processed. These differences also lead to differences in the development of self-efficacy, especially when an individual is engaged in novel tasks, and when adequate process feedback is not provided. Self-esteem also affects feedback seeking behaviors, but this affect is moderated by perceived feedback seeking costs, which will be at least partially a function of the feedback environment.

Self-efficacy affects reactions to feedback, which affect motivation and performance. Self-efficacy is also likely to be positively related to feedback seeking, as well as one's ability to self-assess one's own behavior. Furthermore, it was proposed that self-efficacy interacts with self-esteem in determining feedback seeking behaviors. These effects of self-esteem and self-efficacy on feedback seeking behaviors are mediated by desire for feedback as well as perceived feedback seeking costs. Finally, it was proposed that there may be a need to distinguish self-efficacy strength and self-efficacy magnitude in future studies. Self-efficacy strength may have a different effect on feedback seeking behaviors than does self-efficacy magnitude.

Self-efficacy is fundamentally different from SE as an individual difference variable. While SE is a relatively stable personality trait, self-efficacy is highly situationally specific. Consequently, in workplace and other performance settings, where supervisors seek ways in which to improve subordinate motivation and performance, self-efficacy is likely to be the most relevant of the individual differences considered here. A manager has little hope of changing an employee's self-esteem in the short-run. Our interest in self-esteem is due to the fact that it affects the feedback process. On the other hand, identifying and implementing methods to improve employee self-efficacy through appropriate and accurate process feedback is likely to have immediate performance consequences. This may be especially important in training contexts, where higher self-efficacy may lead to greater training effectiveness.

This report has so far focused on the roles and relationships of SE and self-efficacy in relationship to performance feedback. The reason for this in-depth investigation has been to better understand these two important individual differences (SE and self-efficacy) and thus provide a foundation from which to better integrate the work on the two feedback propensities and internal ability being performed under this project. The key question addressed in this final section concerns how the internal and external feedback propensities and internal ability might complement or interact with SE and self-efficacy.

SE, as a measure of one's self worth, is expected to be stable across time periods and situations. In contrast, self-efficacy, as a measure on one's ability to perform at certain levels, is situation specific and can change significantly even over brief time periods. The two propensities and internal ability are similar to SE in that they are also expected to be stable over time and situation, but they differ from SE in that they were designed to be domain specific. These feedback-specific measures were developed to fill in the gap in our understanding of how individuals respond to and gather performance

feedback that may not be accounted for by a "macro" individual difference like SE or a completely cognitive evaluation of a specific situation like self-efficacy.

The following provides a preliminary exploration into the relationships between these different, yet complementary, individual difference within the realm of performance feedback.

External Propensity

Feedback can come from a variety of external sources, such as supervisors, co-workers, or formal organizational processes (i.e., regularly scheduled performance reviews), and as already noted, individuals are likely to differ in their desire for feedback information from external sources. Furthermore, individuals may differ in their sensitivity to feedback originating outside the job or oneself. For instance, some people may notice feedback from external sources more than other people, and react more strongly to such feedback. The measure that has been developed to assess this combination of desire and sensitivity is labeled "external feedback propensity."

In regard to external feedback seeking, the available research points to a negative relationship between SE and External Propensity (Fedor, Rensvold, & Adams, 1992). Persons low in SE are likely to desire more external feedback for two reasons. First, they tend to distrust their own judgments of themselves and their performance, and thus rely on external evaluations for making such judgments. Second, they desire positive external feedback as a source of reinforcement that they are unable to generate internally. In many cases, the higher external propensity of low SEs will lead to greater feedback eliciting by low SEs than high SEs. However, in situations where the external feedback environment is threatening, low SEs may be less likely to elicit feedback than will high SEs, because low SEs are more sensitive to negative feedback than are high SEs. Thus, while external propensity and SE may be negatively related, this will not always translate into greater actual eliciting by low SEs due to the costs that can be associated with feedback seeking.

While the relationship between SE and External Propensity will tend to be negative, it is possible that someone with high SE will also have a high External Propensity. Such persons, while not as common as low SE - high External Propensity persons, may actually engage in more feedback eliciting than low SE - high external persons. This is due to the fact that such persons are likely to perceive lower feedback seeking costs. Such persons may be more adept at gathering information in threatening situations, and thus may develop higher self-efficacy and greater performance competencies in threatening situations than do low SE - high external persons.

Internal Propensity

Internal Propensity refers to one's desire for and sensitivity to feedback from internal sources. Therefore, those with a high Internal Propensity will tend to prefer to determine for themselves how well they are performing and what behavioral corrections, if any need to be made. Research cited throughout this report suggests that there will tend to be a positive relationship between SE and Internal Propensity. Persons high in SE tend to have greater trust in their self-assessments and have been shown to be less dependent on external reinforcement for esteem enhancement. As a result, high SE will often lead to a greater degree of self-reliance concerning performance feedback or, in other words, a high level of Internal Propensity.

Although not expected to be very common, a person with low SE coupled with high Internal Propensity may have an especially difficult time developing high self-efficacy. Such persons are more likely to rely on intrinsic feedback for assessing performance. Based on the low SE, this intrinsic feedback is more likely to be negative. As noted earlier, low SEs are more likely to evaluate themselves negatively, and to attribute negative performance to ability than to external causes. If the development of self-efficacy is dependent on the attributional analysis of experience, then it seems likely that a low SE - high Internal Propensity type is at a disadvantage when it comes to developing positive efficacy expectations.

Internal Ability

Internal Ability refers to the belief concerning how well one is usually able to determine one's performance level. Because high SEs have greater confidence in their own internal assessments, greater stability of self-concepts, and less reliance on external reinforcement for esteem enhancement, it is expected that they will report higher Internal Ability than are low SEs. However, whether this self-report of greater Internal Ability translates into actual internal ability is unclear. The tendency of high SEs to generate positive intrinsic feedback and to attribute negative feedback to external causes is likely to lead to higher self-efficacy, especially early in task performance. It could be that this confidence on the part of high SEs may lead them to ignore external feedback, when in fact it is needed. This failure to attend to external feedback may be detrimental to task performance (Weiss & Knight, 1980). Only when there is a realization that task performance is sub-standard do people often begin to attend to negative information.

On the other hand, high SEs may actually have higher Internal Ability. Greater confidence in internal ability may cause them to rely on intrinsic sources of feedback more often, and thus become more adept at accurately interpreting these sources. Because high SEs are less sensitive to external evaluation, social comparison, and anxiety, their attention to self and task feedback may be better focused than that of low SEs. This is because externally mediated feedback can also serve as a source of distraction due its inherent evaluative component. Therefore, a person who is not concerned with the impression that is being made on observers may be able to devote more cognitive resources to self and task feedback.

When examining the issue of internal ability, several interesting questions arise that may be suitable for future research. First, is it possible to train individuals for the purpose of developing Internal Ability? It could be that people can be trained in certain cognitive skills that improve their ability to make accurate self-assessments. Second, if

internal ability is trainable, is it trainable as an enduring skill that generalizes across situations, or is internal ability a more situationally-specific skill?

Finally, measurement of actual Internal Ability may need to address not only whether individuals can accurately assess the level of their own performance, but also whether they can make accurate causal attributions of performance outcomes. As noted at several points throughout this report, the attributions people make concerning their performance have important implications for behavior following a performance incident. Inaccurate attributions may eventually lead to inappropriate behavioral responses to feedback, eventually leading to sub-optimal performance. For example, persons with low SE are more likely to attribute negative performance to internal causes such as ability. This may lead the low SE individual to quit exerting effort on a task because that person believes that higher effort will not lead to better task performance.

Persons with high SE may also be susceptible to inaccurate attributions. Persons with high SE are more likely to attribute success to internal causes than to external causes. This may lead persons with high SE to attribute a success to high ability, when in fact they just got lucky. This inaccurate attribution may lead the person with high SE to believe that greater effort to enhance abilities or learn more affective task strategies is unnecessary, when in fact such effort is needed. Furthermore, persons with high SE are more likely to attribute failure to external factors that are beyond their control. Individuals who attribute failure to some external factor beyond their control are not likely to devote effort to developing better abilities or task strategies in order to improve performance. If, in fact, a change in task strategies would lead to better performance, then clearly the inaccurate attribution may lead to an inappropriate response. The inaccurate attributional analysis of experience of both high and low SEs may explain why, over longer periods of time, both high and low SEs tend to exhibit similar levels of performance. While their attributional mistakes are different, they may have similar effects on long-range performance.

Conclusion

This report has reviewed much of the literature relating to individual differences in reactions to feedback and feedback seeking. The research literature seems to indicate that stable individual trait variables, such as SE, do have an impact on feedback related behaviors. However, the foregoing discussion also posited that the three measures being developed as part of the current research program add another piece to the individual difference puzzle in relation to feedback-related responses. It is also obvious that there is still a great deal to be learned about how individuals approach and make sense of their feedback environments and to what extent we can forecast reactions based on individual differences, such as those investigated in this report. However, the better we can do such forecasting the better able we will be to design learning and work situations that facilitate short and long-term performance.

References

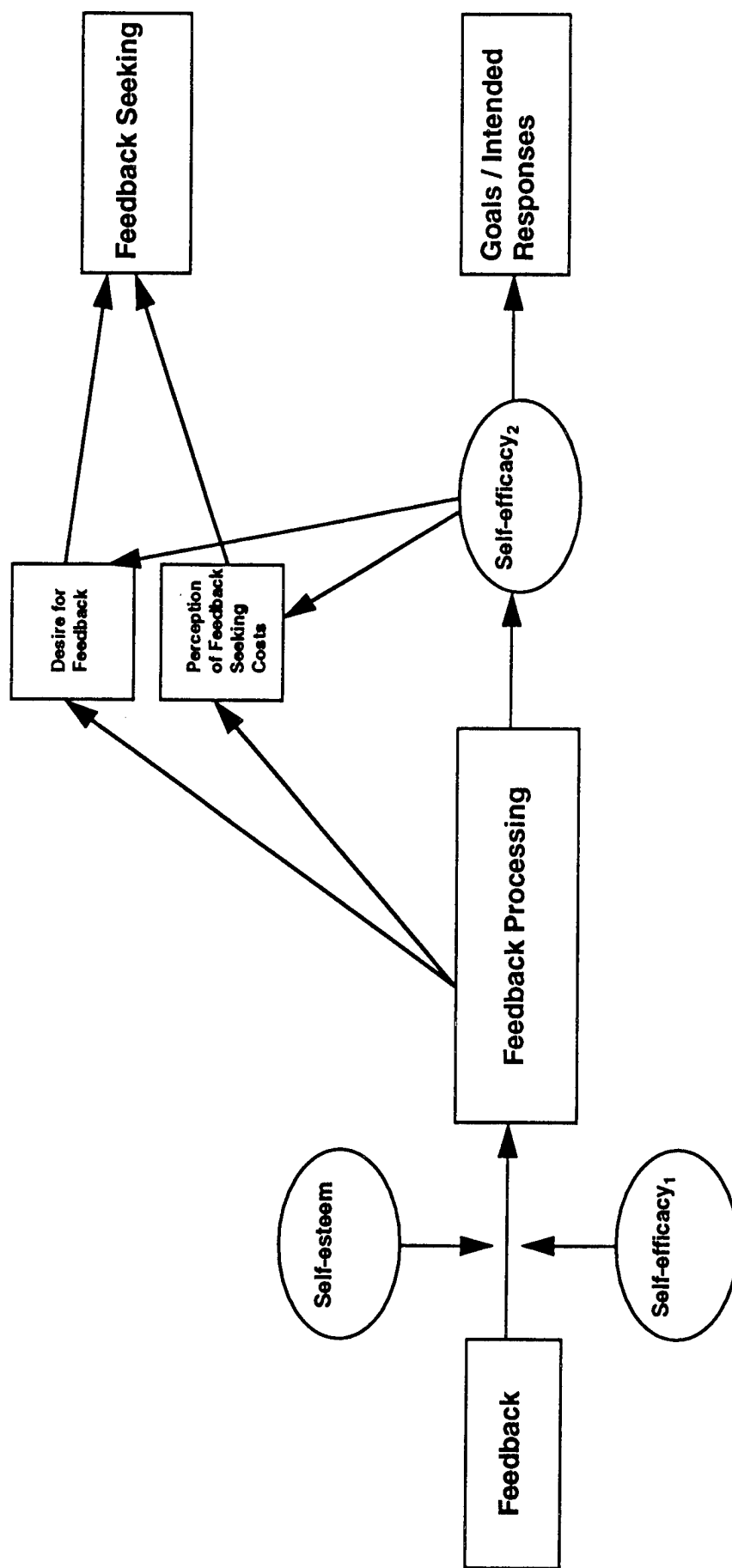
- Aitkenhead, M. (1980). Consistency and self-enhancement: Coexistent or mutually exclusive?. British Journal of Social and Clinical Psychology, 19(1), 41-48.
- Alden, L. 1986. Self-efficacy and causal attributions for social feedback. Journal of Research in Personality, 20, 460-473.
- Ashford, S.J. 1986. Feedback-seeking in individual adaptation: A resource perspective. Academy of Management Journal, 29, 465-487.
- Ashford, S.J. 1988. Individual strategies for coping with stress during organizational transitions. The Journal of Applied Behavioral Science, 24(1), 19-36.
- Ashford, S.J. 1989. Self-assessment in organizations: A literature review and integrative model. Research in Organizational Behavior, 11, 133-174.
- Ashford, S.J. & Cummings, L.L. 1983. Feedback as an individual resource: Personal strategies of creating information. Organizational Behavior and Human Performance, 32, 370-398.
- Bandura, A. 1977. Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191-215.
- Bandura, A. 1986. Social Foundations of Thought and Action: A Social Cognitive Theory. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. 1991. Social theory of self-regulation. Organizational Behavior and Human Decision Processes, 50, 248-287.
- Bandura, A. & Cervone, D. 1983. Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems. Journal of Personality and Social Psychology, 45(5), 1017-1028.
- Basgall, J. A. & Snyder, C. R. 1988. Excuses in waiting: External locus of control and reactions to success-failure feedback. Journal of Personality and Social Psychology, 54(4), 656-662.
- Bennett, N., Herold, D., & Ashford, S. 1990. The effects of tolerance for ambiguity on feedback-seeking behavior. Journal of Occupational Psychology, 63, 343-348.
- Bouffard-Bouchard, T. 1990. Influence of self-efficacy on performance in a cognitive task. The Journal of Social Psychology, 130(3), 353-363.
- Brockner, J. 1988. Self-Esteem at Work: Research, Theory, and Practice. Lexington, MA: Lexington Books.
- Brockner, J., Derr, W., & Laing, W. 1987. Self-esteem and reactions to negative feedback: Towards greater generalizability. Journal of Research in Personality, 21, 318-333.
- Brockner, J. & Guare, J. 1983. Improving the performance of low self-esteem individuals: An attributional approach. Academy of Management Journal, 26(4), 642-656.

- Brown, J.D. 1990. Evaluating one's abilities: Shortcuts and stumbling blocks on the road to self-knowledge. Journal of Experimental Social Psychology, 26, 149-167.
- Campbell, J.D. 1990. Self-esteem and clarity of the self-concept. Journal of Personality and Social Psychology, 59(3), 538-549.
- Cusella, L.P. 1987. Feedback, motivation, and performance. In Jablin, F.M., Putnam, L.L., Roberts, K.H., & Porter, L.W. (eds.), Handbook of Organizational Communication, 624-678. Newbury Park, CA: Sage.
- Dipboye, R.L. 1977. A critical review of Korman's self-consistency theory of work motivation and occupational choice. Organizational Behavior and Human Performance, 18, 108-126.
- Eyring, J., Johnson, D., & Francis, D. 1993. A cross-level units-of-analysis approach to individual differences in skill acquisition. Journal of Applied Psychology, 78, 805-814.
- Fedor, D.B. 1991. Recipient responses to performance feedback: A proposed model and its implications. Research in Personnel and Human Resources Management, 9, 73-120.
- Fedor, D.B., Rensvold, R.B., & Adams, S.M. 1992. An investigation of factors expected to affect feedback seeking: A longitudinal field study. Personnel Psychology, 45(4), 779-805.
- Festinger, L. 1957. A Theory of Cognitive Dissonance. Evanston, IL: Row, Peterson.
- Fitch, G. 1970. Effects of self-esteem, perceived performance, and choice on causal attributions. Journal of Personality and Social Psychology, 16(2), 311-315.
- Gist, M.E. 1987. Self-efficacy: Implications for organizational behavior and human resource management. Academy of Management Review, 12, 472-485.
- Gist, M.E. & Mitchell, T.R. 1992. Self-efficacy: a theoretical analysis of its determinates and malleability. Academy of Management Review, 17(2), 183-211.
- Greenhaus, J.H. & Badin, I.J. 1974. Self-esteem, performance, and satisfaction: Some tests of a theory. Journal of Applied Psychology, 59(6), 722-726.
- Greller, M. & Herold, D. 1975. Sources of feedback: A preliminary investigation. Organizational Behavior and Human Performance, 13, 244-256.
- Hanser, L. & Muchinsky, P.M. 1978. Work as an information environment. Organizational Behavior and Human Performance, 21, 47-60.
- Herold, D. & Greller, M. 1977. Feedback: The definition of a construct. Academy of Management Journal, 20(1), 142-147.
- Ilgen, D.R., Fisher, C.D., & Taylor, M.S. 1979. Consequences of individual feedback on behavior in organizations. Journal of Applied Psychology, 64, 349-371.

- Jatulis, L.L. & Newman, D.L. 1991. The role of contextual variables in evaluation decision making: Perceptions of potential loss, time, and self-efficacy on nurse managers' need for information. Evaluation Review, 15(3), 364-377.
- Johnson, D., Johnson, R., & Taylor, B. 1993. Impact of cooperative and individualistic learning on high-ability students' achievement, self-esteem, and social acceptance. The Journal of Social Psychology, 133, 839-844.
- Josephs, R., Larrick, R., Steele, C., & Nisbett, R. (1992). Protecting the self from the negative consequences of risky decisions. Journal of Personality and Social Psychology, 62(1), 26-37.
- Karl, K.A. & Kopf, J.M. 1993. Will individuals who need to improve their performance the most volunteer to receive videotaped feedback? Paper presented at the 1993 Academy of Management Meeting.
- Karoly, P. 1993. Mechanisms of self-regulation: A systems view. Annual Review of Psychology, 44, 23-52.
- Kernis, M., Brockner, J. & Frankel, B. 1989. Self-esteem and reactions to failure: The mediating role of overgeneralization. Journal of Personality and Social Psychology, 57(4), 707-714.
- Knight, P. & Nadel, J. 1986. Humility revisited: Self-esteem, information search, and policy consistency. Organizational Behavior and Human Performance, 38, 196-206.
- Korman, A.K. 1970. Toward an hypothesis of work behavior. Journal of Applied Psychology, 54(1), 31-41.
- Larson, J.R. 1989. The dynamic interplay between employees' feedback-seeking strategies and supervisors' delivery of performance feedback. Academy of Management Review, 14(3), 408-422.
- Locke, E., Frederick, E., Lee, C., & Bobko, P. 1984. Effect of self-efficacy, goals, and task strategies on task performance. Journal of Applied Psychology, 69, 241-251.
- Marsh, H.W. 1986. Global self-esteem: Its relation to specific facets of self-concept and their importance. Journal of Personality and Social Psychology, 51(6), 1224-1236.
- Matthieu, J., Martineau, J., & Tannenbaum, S. 1992. Individual and situational influences on the development of self-efficacy: Implications for training effectiveness. Personnel Psychology, 46, 125-147.
- McFarlin, D.B., Baumeister, R.F., & Blascovich, J. 1984. On knowing when to quit: Task failure, self-esteem, advice, and nonproductive persistence. Journal of Personality, 52, 138-155.
- McFarlin, D.B. & Blascovich, J. 1981. Effects of self-esteem and performance feedback on future affective preferences and cognitive expectations. Journal of Personality and Social Psychology, 40, 521-531.
- Northcraft, G.B. & Ashford, S.J. 1990. The preservation of self in everyday life: The effects of performance expectations and feedback context on feedback inquiry. Organizational Behavior and Human Decision Processes, 47, 42-64.

- Pelham, B.W. & Swann, W.B. 1989. From self-conceptions to self-worth: On the sources and structure of global self-esteem. Journal of Personality and Social Psychology, 57(4), 672-680.
- Quagliere, P. 1980. Locus of control and perceived utility of feedback. Psychological Reports, 46, 859-862.
- Rensvold, R.B. 1993. Individual and contextual antecedents of perceived feedback-seeking cost in aviation training: A longitudinal study. Paper presented at the 1993 Academy of Management Meeting.
- Rhodewalt, F., Morf, C., Hazlett, S., & Fairfield, M. 1991. Self-handicapping: The role of discounting and augmentation in the preservation of self-esteem. Journal of Personality and Social Psychology, 61(1), 122-131.
- Robinson, D. & Smith-Lovin, L. (1992). Selective interaction as a strategy for identity maintenance: An affect control model. Social Psychology Quarterly, 55(1), 12-28.
- Rosenberg, M. 1965. Society and the Adolescent Self-Image. Princeton, N.J.: Princeton University Press.
- Shrauger, J.S. 1975. Responses to evaluation as a function of initial self-perceptions. Psychological Bulletin, 82(4), 581-596.
- Steers, R. M. 1975. Task-goal attributes, achievement, and supervisory performance. Organizational behavior and Human Performance, 13, 392-403.
- Sweeney, P.D. & Wells, L.E. 1990. Reactions to feedback about performance: A test of three competing models. Journal of Applied Social Psychology, 20(10), 818-834.
- Tang, T. & Sarsfield-Baldwin, L. (1991). The effects of self-esteem, task label, and performance feedback on goal setting, certainty, and attribution. Journal of Psychology, 125(4), 413-418.
- Taylor, M.S., Fisher, C.D., & Ilgen, D.R. 1984. Individuals' reactions to performance feedback in organizations: A control theory perspective. In K.M. Rowland & G.R. Ferris (Eds.), Research in Personnel and Human Resources Management, 2, 81-124. Greenwich, CT: JAI Press.
- Tharenou, P. 1979. Employee self-esteem: A review of the literature. Journal of Vocational Behavior, 15, 316-346.
- Trope, Y. 1975. Seeking information about one's own ability as a determinant of choice among tasks. Journal of Personality and Social Psychology, 32(6), 1004-1013.
- Weiss, H. & Knight, P. 1980. The utility of humility: Self-esteem, information search, and problem solving efficiency. Organizational Behavior and Human Performance, 25, 216-223.

Figure 1
Self-esteem, Self-efficacy,
Feedback Behavior Relationships



Appendix A

Research investigating the relationships between self-esteem and
feedback related behaviors

Self Esteem

<u>Study</u>	<u>Sample</u>	<u>Cognitive Reactions</u>	<u>Affective Reactions</u>	<u>Feedback Eliciting</u>	<u>Feedback Monitoring</u>	<u>Other Behaviors</u>
Hewitt & Goldman (1974)	111M undergrads		SE interacted with need approval (Marlowe-Crowne) to affect responses to FB - low SE and Hi SE/Hi Na increased liking of positive FB & decreased liking of neg. FB. Hi SE/Lo Na - no sig. change of liking of pos. or neg. FB.			
Rhodewalt, et al (1991)	184M undergrads	Interaction of SE and self-handicapping. Hi SE types used self-handicapping condition more for making defensive or enhancing attributions, respectively.				
Robinson & Smith-Lovin (1992)	Study 1: 75 undergrads Study 2: 76 undergrads	Study 1: Lo SE - criticism more accurate, rater more competent & attractive than those w/ Hi & medium SE Study 2: subjects chose person to interact with who was consistent (in terms of FB) with their SE level.	Study 1: found no dif. in affective responses to pos. v. neg. FB for level of FB.	Significant negative zero-order correlation between SE and EP measure. Negative, but non-significant correlation between SE and elicited significant correlation between SE and elicited When regression used, negative relationship between SE and eliciting.	Negative, but non-significant correlation between SE and monitoring. When regression used, negative relation between SE and monitoring when source credibility is high.	
Fedor, et al (1992)	137 helicopter pilot trainees					
Strauger (1975) - literature review		Evaluations consistent with self views are more accurately retained, seen as more credible, and attributed to abilities than are inconsistent evaluations.	Affective reactions are more favorable to positive than to negative reactions, especially for persons with "negative expectancies".		Notes that Hi SE make better internal assessments.	
Fitch (1970)	135 undergrads	Subjects attributed success FB internally regardless of SE. FB/SE interaction - Lo SE attributed failure FB internally more than did Hi SE.				
Campbell, et al (1986)	162 undergrads	SE X FB interaction - Lo SE more satisfied and rate the validity of a test more highly in absolute better condition (subjects told they had beaten a competitor) - Hi SE more satisfied and rate test higher in absolute better condition (subject did better than in relative condition, but told they lost to competitor)				
McFarlin & Blascovich (1981)	64F undergrads	After receiving either success or failure FB, Hi SE reported greater ability and predicted higher performance on a subsequent task than did Lo SE. This effect was greater after neg FB				

Self Esteem

Study	Sample	Cognitive Reactions	Affective Reactions	Feedback Eliciting	Feedback Monitoring	Other Behaviors
Knight & Nadel (1986)	42F & 32M undergrads			Hi SEs requested less info/feedback than Lo SEs		
McFarlin, Baumeister, & Blascovich (1984)	Study 1: 93M undergrads Study 2: 24M & 23F undergrads					Hi SE/failure FB persisted longer after receiving FB Lo SE performed better than Hi SE - especially after failure FB Study 2: Hi SE persisted longer on unsolvable tasks after being told to quit such tasks Hi SE persisted longer after failure FB Conclusion: Hi SE may rely more on internal assessment than on external FB
Brookner, Dorr, & Lang (1987)	Study 1: 42 undergrads Study 2: 107 undergrads			Study 2: Hi SE willingness to make suggestion unaffected by possibility of no vs. negative FB Lo SE willingness to make suggestion in face of possible negative or threatening FB lower than in face of no feedback		Study 1: Hi SE outperformed Lo SE after failure FB, no difference after success FB
Josephs, et al (1992)	Study 1: 78 undergrads Study 2: 86 undergrads Study 3: 101 undergrads			Studies 1 - 3: negative FB/expectation of negative FB makes low SE more risk averse than Hi SE - Lo SE seek less FB?		Hi SE have better role-taking ability and thus are better able to interpret and respond appropriately to FB
Milner (1987) - not empirical - concerned mainly with children						
Weiss & Knight (1980)	41M undergrads			SE negatively related to info. search		SE negatively related to performance where info search was functional
Brookner & Chare (1983)	97F & 71M undergrads					Negative correlation between SE and anagrams correct when failure to solve a previous unsolvable anagram was attributed to external factor (task difficulty). Positive correlation between SE and time spent on task in external attribution condition.
Stone, Guevral, & McInosh (1984)	74M & 37F grad students	SE moderated relationship between FB sequence and perceived FB accuracy - for those w/low SE, FB sequence had no impact on perceptions - for Hi SE, pos-neg FB sequence perceived as more accurate than neg-pos FB sequence				
Tang & Sarfield-Baldwin (1991)	56M & 64F undergrads	No effects for SE before FB. After FB, main effect for SE on self-efficacy (certainty of ability to achieve goal)- high SE had higher certainty. Main effect-positive relation between FB sign and ability and effort attrib.				

Self Esteem

Study	Sample	Cognitive Reactions	Affective Reactions	Feedback Eliciting	Feedback Monitoring	Other Behaviors
Aitkenhead (1980)	72 nurses	Positive FB main effect on rating of evaluator competence and rating of how justified an evaluation is. Lo SE remembered negative FB more than positive FB and expected lower evaluation in the future.	Positive FB main effect on liking of evaluator and satisfaction with evaluation. Hi and med. SE less satisfied with average mark than with good mark, but this effect not found for low SE.			
Baumgardner, et al (1989)	100M undergrads	Hi SE rate pos. FB as more accurate and useful than neg. FB in when rating in private, but not when rating it in public. This effect not found for Lo SE.				
Liden, et al (1988)	149M undergrads					Lo SE improved performance after negative-internally attributed FB, but showed slightly lower performance after pos-internally attributed FB. Hi SE showed more improvement after pos-int FB than after neg-int FB, and showed more improvement after neg-ext FB than after neg-int FB.
Jussim, et al (1989) - SE as DV	35M & 37F undergrads	Persons in negative and no FB conditions had higher global SE after FB than before FB. Neg. FB subjects perceived less control over evaluator reactions and perceived the task to be less important. Conclusion: people self-enhance SE and reduce perceptions of control and importance to protect SE from FB.				
Tang & Sanfield-Baldwin (1991)	56M & 64F undergrads		SE X task difficulty X FB interaction - easy task - low SE liked task more after pos FB than after neg FB - difficult task - high SE liked more after pos FB than after neg. FB - Pos FB/difficult task - Hi SE liked more than Lo SE			
Shrager & Rosenberg (1970)	36M undergrads					Hi SE improved performance more than Lo SE after success FB. Lo SE scores decreased more than Hi SE after failure FB.
Sweeney & Wells (1990)	88M & 99F undergrads	Hi SE more accepting of success FB and more rejecting of failure FB than Lo SE.	Lo SE more affectively pleased with success FB and upset by failure FB than were Hi SE.			
Karl & Kopf (1993)	46M & 44F undergrads			Positive, but weak, correlation between SE and FB seeking (choosing to review a videotape of class presentation). Regression showed interaction between SE and self-consciousness, with SE affecting FB seeking when public self-consciousness was low, but not when it was high (persons high in SE but low in self-consciousness sought most FB).		

Appendix B

Research investigating the relationships between self-efficacy and
feedback related behaviors

Self-Efficacy

Author	Sample	Cognitive Reactions	Affective Reactions	Feedback Eliciting	Feedback Monitoring	Other Behaviors
Seel, Mero, Davis & Wilson (1989)	185 facilities maintenance personnel, 67 military police personnel, & 112 administrative personnel, all at USAF base				Significant positive correlation between self-reported amount of job feedback and "sense of competence" for all three samples. Feedback was significant predictor in regression equation for maintenance and administrative samples. The author notes that "sense of competence" is similar to self-efficacy, but is a slightly broader construct, relating to all job skills.	
Grossman & Bada (1974)	61 undergrads		Significant positive correlation between positive performance FB and satisfaction for high self-efficacy subjects (50) but not for low efficacy subjects (17). Self-efficacy is referred to in this study as "task specific self-esteem".			
Alden (1986)	40 M & 40 F undergrads	High efficacy subjects rated positive FB as more accurate than negative FB, whereas the opposite was the case for low efficacy subjects. High efficacy subjects receiving negative FB attributed performance to external factors more than did other subjects. Low efficacy subjects receiving positive FB attributed performance to external factors more than did low efficacy subjects receiving negative FB.				
Boufford-Bouchard (1990)	42 F & 22 M undergrads				High self-efficacy subjects were more accurate in evaluating the correctness of their answer to a problem than were low efficacy subjects. No statistics to show significance are provided.	
Jarvis & Newman (1991)	259 nurse managers			Subjects low in self-efficacy, when presented with a hypothetical decision situation, reported greater need for information about the decision and greater need to talk to others about the decision when potential for loss was high, but not when it was low.		
Meyer & Shale (1982)	65M German Undergrads				When given a choice of grading an achievement task vs. a non-achievement task, subjects with high "self-concept of ability" chose the achievement task more often, but low self-concept subjects chose the non-achievement task more often. Low self-concept subjects apparently want to avoid ability relevant FB.	
Taylor (1989)	72M undergrads	Competitive outcome FB affected competitive efficacy but not personal efficacy. Competitive efficacy is a person's belief they will perform well relative to others. Personal efficacy is the belief that they will perform well relative to an internal standard.			Personal efficacy, but not competitive efficacy, predicted absolute performance on a physical endurance task.	
Bushman & Curren (1983)	45M & 45F undergrads				Self-evaluative and self-efficacy mechanisms have the greatest impact on motivation when both goals and FB provided. When both goals and FB are present, higher efficacy and higher self-determination will sustain performance lead to greater motivation. Negative FB can be a motivator for high self-efficacy because it leads to self-dissatisfaction.	
Brown (1990)	4 studies with a total of 228 undergrads			In four separate studies, high efficacy subjects (manipulated by feedback on a prior task) reported a higher desire to perform tasks that would provide ability relevant FB than to perform tasks that would not provide FB. No difference in reported preference was found for low efficacy subjects. The task was the "integrative abilities test". Only difference between FB trials and no FB trials was that test scores were immediately available for FB trials.		
Northern & Ashford (1990)	78 undergrads			Subjects with low performance expectations requested less FB than did high expectation subjects. Also, public feedback delivery inhibited FB inquiry for low expectation subjects but not for high expectation subjects. Both of these effects were found for personal performance feedback, but not for social comparison FB.		
Karl & Kopp (1993)	40M & 44F undergrads			Positive correlation between self-efficacy and FB seeking. FB seeking consisted of reviewing a videotape of subject's own classroom presentation.		

Appendix C

Research investigating the relationships between locus of control and
feedback related behaviors

Locus of Control

Author	Sample	Cognitive Reactions	Affective Reactions	Feedback Monitoring	Feedback Eliciting	Other Behaviors/Performance
Baron, et al (1974)	Study 1: 170 ten yr. old boys Study 2: 72M undergrads					Study 1: internals performed better with intrinsic FB; externals better with extrinsic FB Study 2: same as study 1
Allen, et al (1988)	40F undergrads					Both internals and externals improved after negative FB in a competitive situation, only internals improved after positive FB.
Feather & Volkmann (1988)	32M & 48F undergrads.				Externals preferred situations of low effort and little feedback. External LOC neg. corr. with Type A behavior and pos. corr. with test anxiety. Type A's preferred situations with feedback and high effort.	
Baron & Gauz (1972)	60 black male 5th grade students					Internals perform better when intrinsic FB given. Externals perform better when extrinsic FB given. No main effects for type of FB or for LOC.
Quagliari (1980)	73M & 72F undergrads, ~ 90% had full-time work experience			Internals rated informal FB sources as more useful (self & coworkers). Externals rated formal sources as more useful (supervisor, company).		
Bargall & Snyder (1988)	96F undergrads.	Externals, after receiving neg. FB, reacted negatively than did internals and used more consistency-lowering, distinctiveness-raising, and consensus-raising excuses.	No difference in satisfaction with performance between externals and internals after success FB, but externals in failure FB condition had significantly lower satisfaction.			
Boone, Brahauder, & Genis (1991)	43 university students				Internals sought more info. for decision-making than did externals, especially after multiple trials.	
Perrewe & Muzanski (1987)	110 undergrads.			task complexity/perception of feedback, internat complex task - internals perceive more FB provided by job than did externals simple task - externals perceived more FB provided by job than did internals		
Duette & Wolk (1973)	94F & 44M high school students			Internals better able to assess own performance on exams - internals more accurately remembered success on "ESSP" trials		Internals were quicker to learn non-verbal cues to get correct answers on "ESSP" trials Internals better able to use first exam score to improve their assessment of success on second exam
Giles (1977)	232 female non-supervisory employees of electronics manufact				higher neg. relationship between need satisfaction and volunteering for a job enrichment (autonomy, task identity, FB) program for internals than for externals	

Locus of Control

Author	Sample	Cognitive Reactions	Affective Reactions	Feedback Monitoring	Feedback Eliciting	Other Behaviors/Performance
Lewin & Uleman (1979)	80M undergrads	Externals more likely than internals to attrib. success to effort, but less likely to attrib. failure to effort. Internals more likely to attrib. performance to ability. Externals more likely than internals to attribute performance to luck. LOOfchronic SE interaction - external w/high SE attribute success to effort more than internal/high SE. External/low SE attribute success to effort less than internal/low SE.				
Scheer, Auestegge, & Howard (1983)	24 male gymnastics judges			Internals used false FB (artificially high or low ratings of a competitor) in making their own judgments of the competitor; less than did externals - that is, internals were less influenced by the false FB.		
Snyder, et al (1982)	48M & 48F undergrads.				No significant relationship between LOC and expressed desire for FB.	
Stone, Gossard, & McInnis (1984)	74M & 37F grad. students	Internals perceived positive/negative sequence of FB as more accurate than negative/positive sequence. No impact of sequence was found for externals.				
Sabed (1974)	133 male and female undergrad.	Main effect of success FB on attribution to internal factors. Main effect of failure FB on attribution to external factors. In failure FB condition, externals attributed performance more to external factors than did internals.				
Kinnomoe & Greenhaus (1976)	133M & 40F managers of public utility company	Internals perceived their jobs as having more of the job characteristics of FB, autonomy, performance-reward contingency, and job involvement.	These job characteristics were pos. corr. with satisfaction, but LOC did not moderate this relationship as hypothesized.			
Hugh (1985)	42 undergrads.	Positive correlation between external score on Rotter's scale and attribution of performance to external sources.				
Clayson & Ryckman (1977)	75F & 81M undergrads.				LOC X SE X SIGN OF FB interaction - after receiving negative FB, low SE/internals chose to discuss an evaluation with evaluator more than did high SE/internals. No dif. in behavior between high SE/externals and low SE/externals. No dif. in behaviors found for subjects receiving positive FB.	
Gregory (1978)	59F & 48M undergrads.	When subjects expect that negative FB on performance would lead to punishment, internals perceived more control over the situation when they received pos. FB than when they received neg. FB. This relationship not found for externals. No relationship between LOC and control found in condition where pos. FB leads to reward.				
Bellack & Tillyman (1974)	48 undergrads.			Internals made more accurate self-reinforcements on difficult tasks than did externals, but less accurate self-reinforcements on easy tasks than did externals. But after receiving external FB on an easy task, externals self-reinforced more than internals, suggesting that internals kept their attention on the task rather than the external FB.		

Locus of Control

<i>Author</i>	<i>Sample</i>	<i>Cognitive Reactions</i>	<i>Affective Reactions</i>	<i>Feedback Monitoring</i>	<i>Feedback Eliciting</i>	<i>Other Behaviors/Performance</i>
Singer & Singer (1985)	93M undergrads.			After receiving negative FB on a previous decision (budget allocation to a department), internals allocated more money to the department in the next decision making trial than did externals. That is, they remained committed to the previous decision despite the neg. FB.		
Furham (1989)	56F & 23M undergrads.	Internals accepted pos. and rejected neg. FB (better personality FB) more than did externals.				
Van Zuren & Wolf (1991)	31F & 16M undergrads.				Internal LOC was positively correlated with info. seeking in a threatening situation.	

Appendix D

Research investigating the relationships between ambiguity tolerance
and feedback related behaviors

Ambiguity Tolerance

<u>Author</u>	<u>Sample</u>	<u>Cognitive Reactions</u>	<u>Feedback Monitoring</u>	<u>Feedback Eliciting</u>
Bennet, Herold, & Ashford (1990)	172 utility company employees		Job related TA negatively related to FB monitoring (as reported by subject). Problem solving TA not significantly related to monitoring.	Significant negative relationship between job related TA and FB soliciting from supervisors, but not from co-workers. Problem solving TA significantly positively related to solicitation from supervisor on potential for advancement issues, but no relationship for performance issue.
McPherson (1983)	110M undergrads.	Subjects rated information on 7 pt. preference scales. Low TA subjects gave higher ratings to information that was supportive of their opinions (as opposed to objective information) than did high TA subjects. ***This study concerns preference for types of information, rather than FB.		
Ashford (1988)	180 Bell system employees		Significant negative zero-order correlation (-.17) between TA and self-reported monitoring for feedback.	Significant negative zero-order correlation (-.14) between TA and self-reported asking for feedback
Ashford & Cummings (1985)	172 public utility employees			Significant negative zero-order correlation (-.25) between TA and self-reported proactive feedback seeking. TA also found to moderate the relationship between role ambiguity and FB seeking and the relationship between contingency uncertainty and FB seeking (individuals low in TA sought FB under conditions of role ambiguity and contingency uncertainty.
Fedor et al (1992)	137 helicopter pilot trainees		Significant negative zero-order correlation between TA and monitoring	Significant negative zero-order correlation between TA and eliciting. Regression analysis found that TA was negatively related to eliciting only when FB seeking costs were low.

Appendix E

Research investigating the relationships between achievement need
and feedback related behaviors

Achievement Need

Author	Sample	Feedback Monitoring	Feedback Eliciting	Other Behaviors/Performance
Trope (1975)	102M undergrad psych students		N-Ach moderates selection of items with low and high diagnosticity (amount of info. concerning one's ability on the task). High N-Ach types have a greater desire for ability-related feedback than low N-Ach types. Measure: Mehnabian Achievement	
Trope (1980)	40M & 48F undergrads		High N-Ach types showed higher preference (liked to play) tasks that provide higher diagnosticity of both success and failure. ie. High N-Ach types preferred games that let them determine that they were succeeding or failing. Measure: Mehnabian Achievement & Motive scope	
Halisch & Heckhausen (1977)	55M & 44F grade school pupils - age 6-8	Monitoring behavior assessed by "glancing behavior". No difference found between low and high N-Ach's. Measure: Graphic Expression Test-Aronson (1958)		
Steers & Spencer (1977)	115 Manufacturing Co. Managers			Performance as rated by supervisor was only significantly positively correlated with FB from the job for those with High N-Ach ($r=.22$), and not for those low in N-Ach ($r=-.02$) Measure: Manifest Needs Questionnaire (Steers & Braunstein, 1976)
Steers (1975)	133F first-level supervisors			Feedback from the job was sig. pos. related to goal effort (how hard person tried for goal attainment) and overall performance (as rated by supervisor) for High N-Ach's (.22 and .27, respectively), but not for low N-Ach's (-.02 and -.04, respectively). Measure: Adjective checklist - Gough & Heilbrum (1965)
Harachkiewicz, et al (1985)	120M high school students mean age 16.7		N-Ach moderated relationship between positive FB and task enjoyment. Low N-Ach's enjoyed task more w/out FB. High N-Ach's: no dif. no FB and pos. FB. Measure: Achievement scale of the personality research form (Jackson, 1974)	
Matsui, et al (1982)	91 undergrads.			Only subjects who were high in N-Ach increased the number of problems attempted after receiving performance FB. Measure: Manifest Needs Questionnaire